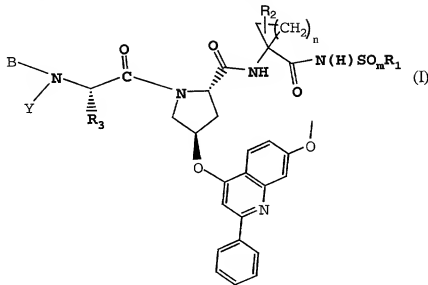


CLAIMS

What is claimed is:

- 5 1. A compound having the formula



wherein:

- (a)  $R_1$  is  $C_{1-8}$  alkyl,  $C_{3-7}$  cycloalkyl, or  $C_{4-10}$  (alkylcycloalkyl), which are all optionally substituted from one to three times with halo, cyano, nitro,  $C_{1-6}$  alkoxy, amido, amino or phenyl, or  $R_1$  is  $C_6$  or  $C_{10}$  aryl which is optionally substituted from one to three times with halo, cyano, nitro,  $C_{1-6}$  alkyl,  $C_{1-6}$  alkoxy, amido, amino or phenyl;
- (b)  $m$  is 1 or 2;
- (c)  $n$  is 1 or 2;
- (d)  $R_2$  is  $C_{1-6}$  alkyl,  $C_{2-6}$  alkenyl or  $C_{3-7}$  cycloalkyl, each optionally substituted from one to three times with halogen, or  $R_2$  is H;
- (e)  $R_3$  is  $C_{1-8}$  alkyl optionally substituted with phenyl,  $C_{3-12}$  alkenyl,  $C_{3-7}$  cycloalkyl, or  $C_{4-10}$  (alkylcycloalkyl), wherein the cycloalkyl or

- alkylcycloalkyl are optionally substituted with hydroxy, C<sub>1-6</sub> alkyl, C<sub>2-6</sub> alkenyl; or C<sub>1-6</sub> alkoxy or R<sub>3</sub> together with the carbon atom to which it is attached forms a C<sub>3-7</sub> cycloalkyl group optionally substituted with C<sub>2-6</sub> alkenyl;
- 5 (f) Y is H, phenyl substituted with nitro, pyridyl substituted with nitro, or C<sub>1-6</sub> alkyl wherein said alkyl is optionally substituted with cyano, OH or C<sub>3-7</sub> cycloalkyl;
- 10 (g) B is H, C<sub>1-6</sub> alkyl, R<sub>4</sub>-(C=O)-, R<sub>4</sub>O(C=O)-, R<sub>4</sub>-N(R<sub>5</sub>)-C(=O)-, R<sub>4</sub>-N(R<sub>5</sub>)-C(=S)-, R<sub>4</sub>SO<sub>2</sub>-, or R<sub>4</sub>-N(R<sub>5</sub>)-SO<sub>2</sub>-;
- (h) R<sub>4</sub> is (i) C<sub>1-10</sub> alkyl optionally substituted with phenyl, carboxyl, C<sub>1-6</sub> alkanoyl, 1-3 halogen, hydroxy, -OC(O)C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, amino optionally mono-or-di substituted with C<sub>1-6</sub> alkyl, amido, or (lower alkyl) amido; or -O-phenyl optionally substituted with halogen or C<sub>1-6</sub> alkoxy; (ii) C<sub>3-7</sub> cycloalkyl, C<sub>3-7</sub> cycloalkoxy, or C<sub>4-10</sub> alkylcyclo-alkyl, all optionally substituted with hydroxy, carboxyl, (C<sub>1-6</sub> alkoxy)carbonyl, amino optionally mono- or disubstituted with C<sub>1-6</sub> alkyl, amido, or (lower alkyl) amido; (iii) amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; amido; or (lower alkyl)amido; (iv) C<sub>6</sub> or C<sub>10</sub> aryl or C<sub>7-16</sub> aralkyl, all optionally substituted with C<sub>1-6</sub> alkyl, halogen, nitro, hydroxy, amido, (lower alkyl) amido, or amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; or (v) Het or (lower alkyl)-Het, both optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl) amido, or amino optionally mono-or-di-substituted with C<sub>1-6</sub>

- alkyl; (vi) bicyclo(1.1.1)pentane; (vii)  
-C(O)OC<sub>1-6</sub> alkyl, C<sub>2-6</sub>alkenyl, C<sub>2-6</sub>alkynyl; and  
(i) R<sub>5</sub> is H or C<sub>1-6</sub> alkyl, said C<sub>1-6</sub>alkyl optionally  
substituted with 1-3 halogens;  
5 or a pharmaceutically acceptable salt, solvate or  
prodrug thereof.
2. A compound of Claim 1 wherein m is 2.
- 10 3. A compound of Claim 1 wherein n is 1.
4. A compound of Claim 1 wherein R<sub>1</sub> is cyclopropyl.
5. A compound of Claim 1 wherein R<sub>1</sub> is cyclobutyl.
- 15 6. A compound of Claim 1 wherein R<sub>1</sub> is optionally  
substituted phenyl.
7. A compound of Claim 1 wherein R<sub>2</sub> is ethyl or  
20 vinyl.
8. A compound of Claim 1 wherein R<sub>3</sub> is C<sub>1-6</sub> alkyl.
9. A compound of Claim 1 wherein m is 2, n is 1 and  
25 R<sub>2</sub> is ethyl.
10. A compound of Claim 9 wherein R<sub>1</sub> is cyclopropyl.
11. A compound of Claim 9 wherein R<sub>1</sub> is cyclobutyl.
- 30 12. A compound of Claim 9 wherein R<sub>1</sub> is optionally  
substituted phenyl.

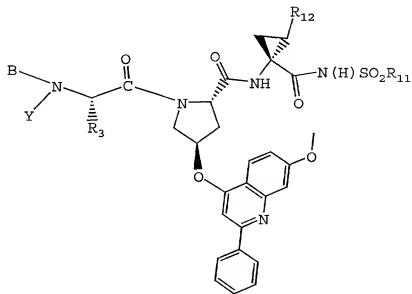
13. A compound of Claim 1 wherein m is 2, n is 1 and R<sub>2</sub> is vinyl.

14. A compound of Claim 13 wherein R<sub>1</sub> is cyclopropyl.

15. A compound of Claim 13 wherein R<sub>1</sub> is cyclobutyl.

16. A compound of Claim 13 wherein R<sub>1</sub> is optionally substituted phenyl.

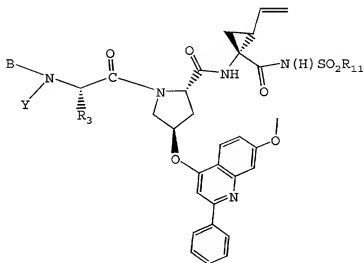
17. A compound having the formula



wherein:

- (a) R<sub>11</sub> is C<sub>1-8</sub> alkyl, C<sub>3-7</sub> cycloalkyl, or C<sub>4-10</sub>(alkylcyclo-alkyl), naphthyl, or phenyl wherein said phenyl is optionally substituted from one to three times with halo, cyano, nitro, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, amido, or phenyl;
- (b) R<sub>12</sub> is C<sub>1-6</sub> alkyl, C<sub>2-6</sub> alkenyl or H;
- (c) R<sub>3</sub> is C<sub>1-8</sub> alkyl, C<sub>3-12</sub> alkenyl, C<sub>3-7</sub> cycloalkyl, or C<sub>4-10</sub> (alkylcycloalkyl), wherein the cycloalkyl or alkylcycloalkyl are optionally substituted with hydroxy, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkenyl, or C<sub>1-6</sub> alkoxy;

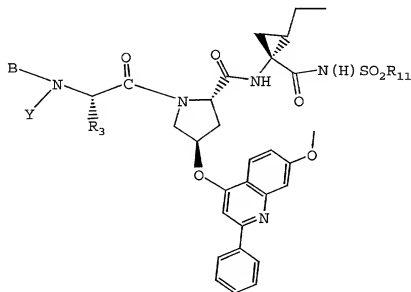
- (d) Y is H or C<sub>1-6</sub> alkyl wherein said alkyl is optionally substituted with cyano or C<sub>3-7</sub> cycloalkyl;
- (e) B is H, R<sub>4</sub>-(C=O)-, R<sub>4</sub>O(C=O)-, R<sub>4</sub>-N(R<sub>5</sub>)-C(=O)-, R<sub>4</sub>-N(R<sub>5</sub>)-C(=S)-, R<sub>4</sub>SO<sub>2</sub>-, or R<sub>4</sub>-N(R<sub>5</sub>)-SO<sub>2</sub>-;
- 5 (f) R<sub>4</sub> is (i) C<sub>1-10</sub> alkyl optionally substituted with carboxyl, C<sub>1-6</sub> alkanoyl, hydroxy, C<sub>1-6</sub> alkoxy, amino optionally mono-or-di substituted with C<sub>1-6</sub> alkyl, amido, or (lower alkyl) amido; (ii) C<sub>3-7</sub> cycloalkyl, C<sub>3-7</sub> cycloalkoxy, or C<sub>4-10</sub> alkylcycloalkyl, all optionally substituted with hydroxy, carboxyl, (C<sub>1-6</sub> alkoxy)carbonyl, amino optionally mono- or disubstituted with C<sub>1-6</sub> alkyl, amido, or (lower alkyl) amido; (iii) amino optionally mono- or-di-substituted with C<sub>1-6</sub> alkyl; amido; or (lower alkyl)amido; (iv) C<sub>6</sub> or C<sub>10</sub> aryl or C<sub>7-16</sub> aralkyl, all optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl) amido, or amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; or (v) Het or (lower alkyl)-Het, both optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl) amido, or amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; and
- 10 (g) R<sub>5</sub> is H or C<sub>1-6</sub> alkyl,
- 15 or a pharmaceutically acceptable salt, solvate or prodrug thereof.
- 20 18. A compound of Claim 17 wherein R<sub>11</sub> is selected from cyclopropyl, cyclobutyl or optionally substituted phenyl.
- 30 19. A compound having the formula



wherein:

- (a)  $R_{11}$  is  $C_{1-8}$  alkyl,  $C_{3-7}$  cycloalkyl, or  $C_{4-10}$  (alkylcyclo-alkyl), naphthyl, or phenyl wherein said phenyl is optionally substituted from one to three times with halo, cyano, nitro,  $C_{1-6}$  alkyl,  $C_{1-6}$  alkoxy, amido, or phenyl;
- (b)  $R_3$  is  $C_{1-8}$  alkyl,  $C_{3-12}$  alkenyl,  $C_{3-7}$  cycloalkyl, or  $C_{4-10}$  (alkylcycloalkyl), wherein the cycloalkyl or alkylcycloalkyl are optionally substituted with hydroxy,  $C_{1-6}$  alkyl,  $C_{1-6}$  alkenyl, or  $C_{1-6}$  alkoxy;
- (c) Y is H or  $C_{1-6}$  alkyl wherein said alkyl is optionally substituted with cyano or  $C_{3-7}$  cycloalkyl;
- (d) B is H,  $R_4-(C=O)-$ ,  $R_4O(C=O)-$ ,  $R_4-N(R_5)-(C=O)-$ ,  $R_4-N(R_5)-(C=S)-$ ,  $R_4SO_2-$ , or  $R_4-N(R_5)-SO_2-$ ;
- (e)  $R_4$  is (i)  $C_{1-10}$  alkyl optionally substituted with carboxyl,  $C_{1-6}$  alkanoyl, hydroxy,  $C_{1-6}$  alkoxy, amino optionally mono-or-di substituted with  $C_{1-6}$  alkyl, amido, or (lower alkyl) amido; (ii)  $C_{3-7}$  cycloalkyl,  $C_{3-7}$  cycloalkoxy, or  $C_{4-10}$  alkylcyclo-alkyl, all optionally substituted with hydroxy, carboxyl, ( $C_{1-6}$  alkoxy)carbonyl, amino optionally mono- or disubstituted with  $C_{1-6}$  alkyl, amido, or

- (lower alkyl) amido; (iii) amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; amido; or (lower alkyl)amido; (iv) C<sub>6</sub> or C<sub>10</sub> aryl or C<sub>7-16</sub> aralkyl, all optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl) amido, or amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; or (v) Het or (lower alkyl)-Het, both optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl) amido, or amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; and
- (f) R<sub>5</sub> is H or C<sub>1-6</sub> alkyl;
- or a pharmaceutically acceptable salt, solvate or prodrug thereof.
20. A compound of Claim 19 wherein R<sub>11</sub> is selected from cyclopropyl, cyclobutyl or optionally substituted phenyl.
21. A compound having the formula



wherein:

- (a) R<sub>11</sub> is C<sub>1-8</sub> alkyl, C<sub>3-7</sub> cycloalkyl, or C<sub>4-10</sub>(alkylcyclo-alkyl), naphthyl, or phenyl

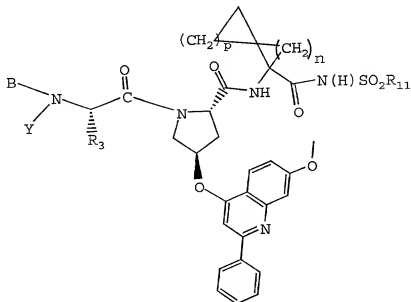
- wherein said phenyl is optionally substituted from one to three times with halo, cyano, nitro, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, amido, or phenyl;
- (b) R<sub>3</sub> is C<sub>1-8</sub> alkyl, C<sub>3-12</sub> alkenyl, C<sub>3-7</sub> cycloalkyl, or C<sub>4-10</sub> (alkylcycloalkyl), wherein the cycloalkyl or alkylcycloalkyl are optionally substituted with hydroxy, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkenyl, or C<sub>1-6</sub> alkoxy;
- (c) Y is H or C<sub>1-6</sub> alkyl wherein said alkyl is optionally substituted with cyano or C<sub>3-7</sub> cycloalkyl;
- (d) B is H, R<sub>4</sub>-(C=O)-, R<sub>4</sub>O(C=O)-, R<sub>4</sub>-N(R<sub>5</sub>)-C(=O)-, R<sub>4</sub>-N(R<sub>5</sub>)-C(=S)-, R<sub>4</sub>SO<sub>2</sub>-, or R<sub>4</sub>-N(R<sub>5</sub>)-SO<sub>2</sub>-;
- (e) R<sub>4</sub> is (i) C<sub>1-10</sub> alkyl optionally substituted with carboxyl, C<sub>1-6</sub> alkanoyl, hydroxy, C<sub>1-6</sub> alkoxy, amino optionally mono-or-di substituted with C<sub>1-6</sub> alkyl, amido, or (lower alkyl) amido; (ii) C<sub>3-7</sub> cycloalkyl, C<sub>3-7</sub> cycloalkoxy, or C<sub>4-10</sub> alkylcycloalkyl, all optionally substituted with hydroxy, carboxyl, (C<sub>1-6</sub> alkoxy)carbonyl, amino optionally mono- or disubstituted with C<sub>1-6</sub> alkyl, amido, or (lower alkyl) amido; (iii) amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; amido; or (lower alkyl)amido; (iv) C<sub>6</sub> or C<sub>10</sub> aryl or C<sub>7-16</sub> aralkyl, all optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl) amido, or amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; or (v) Het or (lower alkyl)-Het, both optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl) amido, or amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; and
- (f) R<sub>5</sub> is H or C<sub>1-6</sub> alkyl;
- or a pharmaceutically acceptable salt, solvate or prodrug thereof.



22. A compound of Claim 21 wherein  $R_{11}$  is selected from cyclopropyl, cyclobutyl or optionally substituted phenyl.

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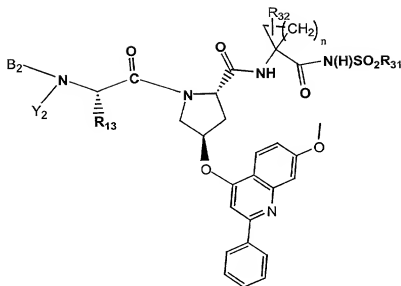
23. A compound having the formula



wherein:

- (a)  $R_{11}$  is  $C_{1-8}$  alkyl,  $C_{3-7}$  cycloalkyl, or  $C_{4-10}$ (alkylcycloalkyl), naphthyl, or phenyl wherein said phenyl is optionally substituted from one to three times with halo, cyano, nitro,  $C_{1-6}$  alkyl,  $C_{1-6}$  alkoxy, amido, or phenyl;
- (b)  $R_3$  is  $C_{1-8}$  alkyl,  $C_{3-12}$  alkenyl,  $C_{3-7}$  cycloalkyl, or  $C_{4-10}$  (alkylcycloalkyl), wherein the cycloalkyl or alkylcycloalkyl are optionally substituted with hydroxy,  $C_{1-6}$  alkyl,  $C_{1-6}$  alkenyl, or  $C_{1-6}$  alkoxy;
- (c) Y is H or  $C_{1-6}$  alkyl wherein said alkyl is optionally substituted with cyano or  $C_{3-7}$  cycloalkyl;
- (d) B is H,  $R_4-(C=O)-$ ,  $R_4O(C=O)-$ ,  $R_4-N(R_5)-C(=O)-$ ,  $R_4-N(R_5)-C(=S)-$ ,  $R_4SO_2-$ , or  $R_4-N(R_5)-SO_2-$ ;
- (e)  $R_4$  is (i)  $C_{1-10}$  alkyl optionally substituted with

- carboxyl, C<sub>1-6</sub> alkanoyl, hydroxy, C<sub>1-6</sub> alkoxy, amino optionally mono-or-di substituted with C<sub>1-6</sub> alkyl, amido, or (lower alkyl) amido; (ii) C<sub>3-7</sub> cycloalkyl, C<sub>3-7</sub> cycloalkoxy, or C<sub>4-10</sub> alkylcycloalkyl, all optionally substituted with hydroxy, carboxyl, (C<sub>1-6</sub> alkoxy)carbonyl, amino optionally mono- or disubstituted with C<sub>1-6</sub> alkyl, amido, or (lower alkyl) amido; (iii) amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; amido; or (lower alkyl)amido; (iv) C<sub>6</sub> or C<sub>10</sub> aryl or C<sub>7-16</sub> aralkyl, all optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl) amido, or amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; or (v) Het or (lower alkyl)-Het, both optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl) amido, or amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl;
- (f) R<sub>5</sub> is H or C<sub>1-6</sub> alkyl;
- (g) n is 1 or 2; and
- (h) p is 1, 2, 3, 4 or 5,
- or a pharmaceutically acceptable salt, solvate or prodrug thereof.
24. A compound of Claim 23 wherein R<sub>11</sub> is selected from cyclopropyl, cyclobutyl or optionally substituted phenyl.
25. A compound of having the formula



wherein:

- (a)  $R_{31}$  is  $C_{1-8}$  alkyl,  $C_{3-7}$  cycloalkyl, or  $C_{4-10}$  (alkylcycloalkyl), all optionally substituted with hydroxy, halo,  $C_{1-6}$  alkoxy,  $C_{1-6}$  thioalkyl, amido, amino, ( $C_{1-6}$  alkyl)amido,  $C_6$  or  $C_{10}$  aryl,  $C_{7-16}$  aralkyl, Het, or ( $C_{1-6}$  alkyl)-Het, said aryl, arylalkyl or Het being optionally substituted with halo, alkyl or lower alkyl Het;
- (b)  $n$  is 1 or 2;
- (c)  $R_{32}$  is H,  $C_{1-6}$  alkyl,  $C_{1-3}$  alkoxy,  $C_{3-7}$  cycloalkyl,  $C_{2-6}$  alkenyl, or  $C_{2-6}$  alkynyl, all optionally substituted with halogen;
- (d)  $R_{13}$  is  $C_{1-8}$  alkyl,  $C_{3-12}$  alkenyl,  $C_{3-7}$  cycloalkyl,  $C_{4-13}$  cycloalkenyl, or  $C_{4-10}$  (alkylcycloalkyl), all optionally substituted with hydroxy,  $C_{1-6}$  alkoxy,  $C_{1-6}$  thioalkyl, amino, amido, (loweralkyl) amido,  $C_6$  or  $C_{10}$  aryl, or  $C_{7-16}$  aralkyl;
- (e)  $Y_2$  is H or  $C_{1-6}$  alkyl;
- (f)  $B_2$  is H,  $R_{14}-(C=O)-$ ;  $R_{14}O(C=O)-$ ,  $R_{14}-N(R_{15})-(C=O)-$ ;  $R_{14}-N(R_{15})-(C=S)-$ ;  $R_{14}SO_2-$ , or  $R_{14}-N(R_{15})-SO_2-$ ;
- (g)  $R_{14}$  is (i)  $C_{1-10}$  alkyl optionally substituted with carboxyl,  $C_{1-6}$  alkanoyl, hydroxy,  $C_{1-6}$  alkoxy, amino

- optionally mono-or-di substituted with C<sub>1-6</sub> alkyl, amido, or (lower alkyl) amido; (ii) C<sub>3-7</sub> cycloalkyl, C<sub>3-7</sub> cycloalkoxy, or C<sub>4-10</sub> alkylcycloalkyl, all optionally substituted with
- 5 hydroxy, carboxyl, (C<sub>1-6</sub> alkoxy)carbonyl, amino optionally mono- or disubstituted with C<sub>1-6</sub> alkyl, amido, or (lower alkyl) amido; (iii) amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; amido; or (lower alkyl)amido; (iv) C<sub>6</sub> or C<sub>10</sub> aryl
- 10 or C<sub>7-16</sub> aralkyl, all optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl) amido, or amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; or (v) Het or (lower alkyl)-Het, both optionally substituted with C<sub>1-6</sub> alkyl, hydroxy,
- 15 amido, (lower alkyl) amido, or amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; and
- (h) R<sub>15</sub> is H or C<sub>1-6</sub> alkyl.
26. A salt, solvate or prodrugs of a compound of
- 20 Claim 25.
27. A compound of Claim 25 wherein
- R<sub>31</sub> is C<sub>3-6</sub> cycloalkyl, C<sub>4-10</sub> alkylcycloalkyl, C<sub>1-8</sub> alkyl CF<sub>3</sub> or CCl<sub>3</sub>.
- 25
28. A compound of Claim 25 wherein B<sub>2</sub> is an acyl derivative of formula R<sub>14</sub>-O-(C=O)- or a carboxyl of formula R<sub>14</sub>-O-(C=O)-.
- 30 29. A compound of claim 25 wherein R<sub>2</sub> is H, C<sub>1-3</sub> alkyl, C<sub>3-5</sub> cycloalkyl, or C<sub>2-4</sub> alkenyl, all optionally substituted with halo.

30. A compound of claim 25 wherein  $R_{31}$  is  $C_{1-8}$  alkyl,  $C_{3-7}$  cycloalkyl, or  $C_{4-10}$  alkylcycloalkyl, all optionally substituted with hydroxy,  $C_{1-6}$  alkoxy,  $C_{1-6}$  thioalkyl, acetamido or  $C_6$  or  $C_{10}$  aryl.
- 5
31. A compound of claim 25 wherein
- B is  $(CH_3)_3O-CO-$ ;
- Y is H; n is 1;
- $R_{31}$  is methyl, cyclopropyl or  $-CF_3$ ;
- 10  $R_{32}$  is ethyl or vinyl; and
- $R_{13}$  is t-butyl, i-propyl, s-butyl, i-butyl or cyclohexylmethyl.
32. A pharmaceutical composition, comprising
- 15 (a) a compound of Claim 1-31, or a pharmaceutically acceptable salt, solvate or prodrug thereof; and
- (b) a pharmaceutically acceptable carrier.
- 20 33. A method of inhibiting HCV NS3 protease which comprises administering to a mammal in need of such treatment a therapeutically effective amount a compound of Claim 1-31, or a pharmaceutically acceptable salt, solvate or prodrug thereof.
- 25
34. A method of for treating an HCV infection, in a mammal in need thereof, comprising the administration to said mammal of a therapeutically effective amount a compound of
- 30 Claim 1-31, or a pharmaceutically acceptable salt, solvate or prodrug thereof.